

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

The corrections to Figures 1, 2 and 7 suggested by the Examiner have been proposed in the attached sheets of drawing as indicated in red ink. Suitable replacement pages for these drawings incorporating such corrections are also attached.

The Examiner's suggested corrections in the specification at pages 9 and 15 have also been effected by the above amendment.

Accordingly, all formal issues are now believed to have been resolved in the applicant's favor.

The rejection of claims 1, 2, 6 and 7 under 35 U.S.C. §103 as allegedly being made "obvious" based on Muller in view of Epps is respectfully traversed.

The claimed invention concerns the close linking of a look-up engine which obtains associated data from an examination of the header of a packet and a post-processor (the recited network processor) which acts either on the header or the associated data (depending on the processing function) to modify the associated data. Where the associated data is a forwarding bitmask the post-processor will usually modify the bitmask so that the packet is typically sent to a different selection of ports than is specified in the unmodified bitmask. The main idea is to separate the look-up and post-processing so that program modification is easier and to facilitate parallel processing.

Contrary to the Examiner's allegation, Muller does not disclose any "input packet processor" 310 or any "logic unit 314". No such items are disclosed in Figure 3 and/or the corresponding description or elsewhere.

Muller fails even to disclose any network processor which modifies the associated data. Such is not disclosed either in the cited passage (column 6, lines 28-34) or elsewhere. The passage on which the Examiner repeatedly relies is as follows:

"SWITCH FABRIC OVERVIEW

Having described the interface between the input ports and the switch fabric 210, the internal details of the switch fabric will now be described. Referring to Fig. 3, a block diagram of an exemplary switch fabric 210 is depicted. In general the switch fabric is responsible for" [directing packet from an input port to an output port.]

This passage is incapable of supporting the Examiner's multiple contentions.

Further, Muller does not have any signaling of a network processor by the look-up engine: no such activity or anything resembling it is disclosed in the cited passage (column 6, lines 28-34) or elsewhere.

Even further, there is no return signal from any network processor to the search engine. The Examiner here references Figure 3 of Muller. However, the only processing apart from the look-up engine 370 in Figure 3 is header pre-processing, which merely provides search keys for the look-up engine (column 8, line s1-5). Accordingly, the Examiner's assertions regarding Muller's relevance are without foundation.

It may be noted that Muller does assemble associated data at step 780 (Figure 7). However, Muller discloses neither structure for signaling a network processor that the look-up

engine has finished nor any structure for signaling the look-up engine that a network processor has completed processing.

The Examiner may have been misled by Muller's use of the term "associative data". As in apparent from Muller, column 12, this data is that which is in the original packet, i.e., items (1) to (7) or is a fixed quantity, the input port list, item (8) which needs to be input to the search engine and is not required to be modified. Applicant's associated data is obtained by the search engine and is an output, not an input.

Epps is cited by the Examiner only to show a register for receiving a header portion of a packet. As an isolated feature per se, this is conceded, but obviously does not significantly alter the lack of foundation for the rejection as discussed above.

The rejection of claims 2 and 7 is similarly unsound. Again, the Examiner relies on the passage at column 6, lines 28-34, which as shown above, does not disclose any modification of header data.

The rejection of the remaining claims 3, 4, 5 and 8-10 as allegedly made "obvious" based on Muller/Epps in further view of Ambe is also respectfully traversed. Ambe has been additionally cited only to show port bitmasks. Ambe does disclose modification of a provisional bitmask at paragraph 128 to prevent a packet from going out of a port which is connected in a closed loop with another port; this is the significant of the brief reference to the "spanning tree", which is a procedure for avoiding loops. However, this obviously does not alter the lack of foundation for the rejection based principally on Muller as discussed above.

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Attention is directed to new method claims 11 and 12 which can be seen to have analogies to apparatus claims 1 and 3 respectively. As will be apparent from these new claims, the invention claimed therein also relies upon separation of the look-up and post-processing functions so as to enable the latter to be performed efficiently by a (known) RISC. This architecture is believed to be novel and patentable in both apparatus and method respects.

Accordingly, this entire application is now believed to be in allowable condition and a formal Notice to that effect is respectfully solicited.

Respectfully submitted,

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AMENDMENTS TO THE DRAWINGS

Proposed minor corrections are shown in red on attached copies of Figures 1, 2 and 7.

Replacement copies of these Figures are also attached incorporating these corrections.

Attachment: Replacement Sheet(s)
Annotated Sheet Showing Changes



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PROPOSED DRAFTING AMENDMENTS
FOR SN. 09/812,616

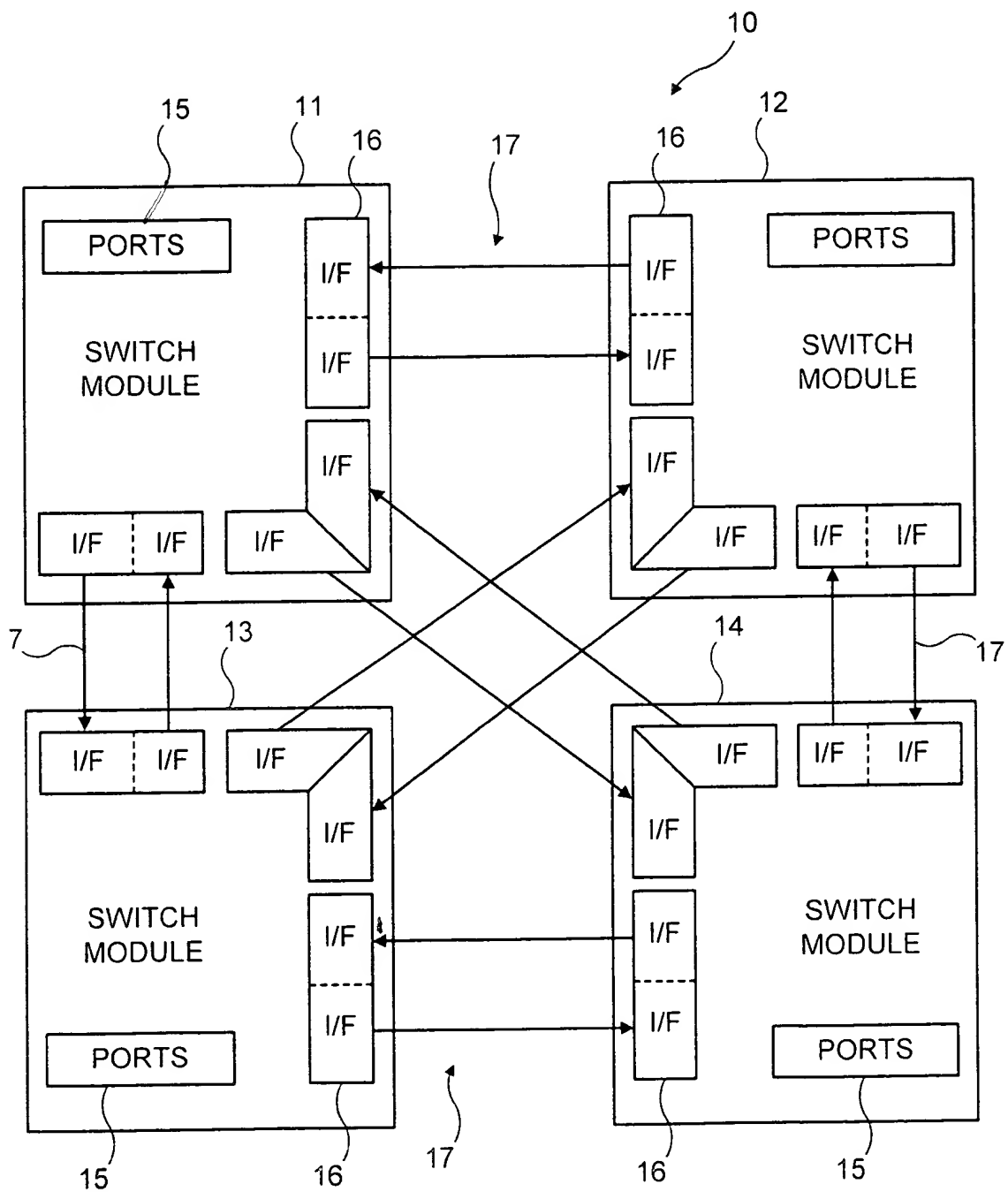


FIG. 1

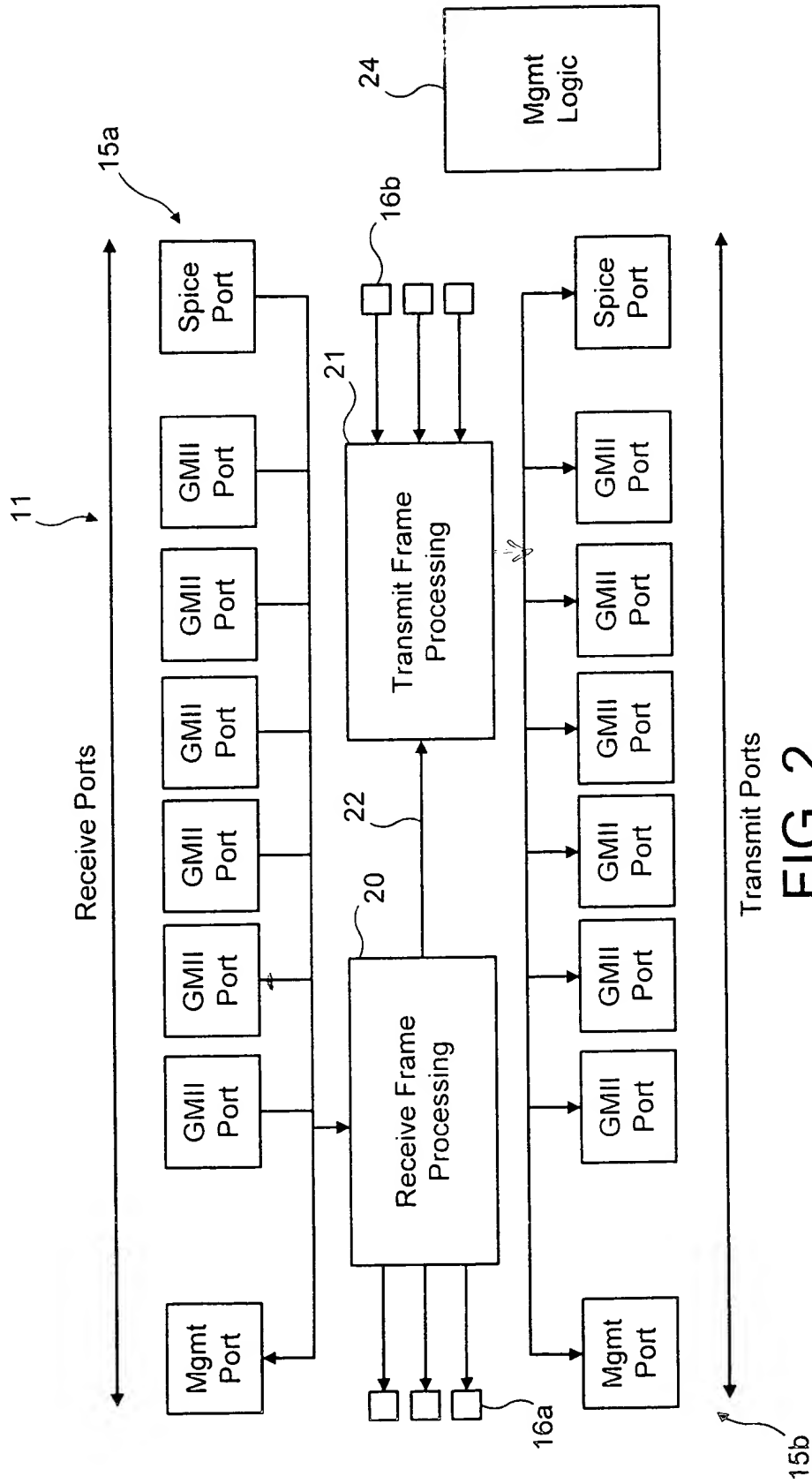
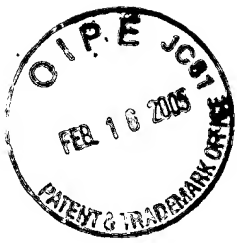


FIG. 2



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PROPOSED DRAFTING COMMENTS
FOR SN 09/816,670

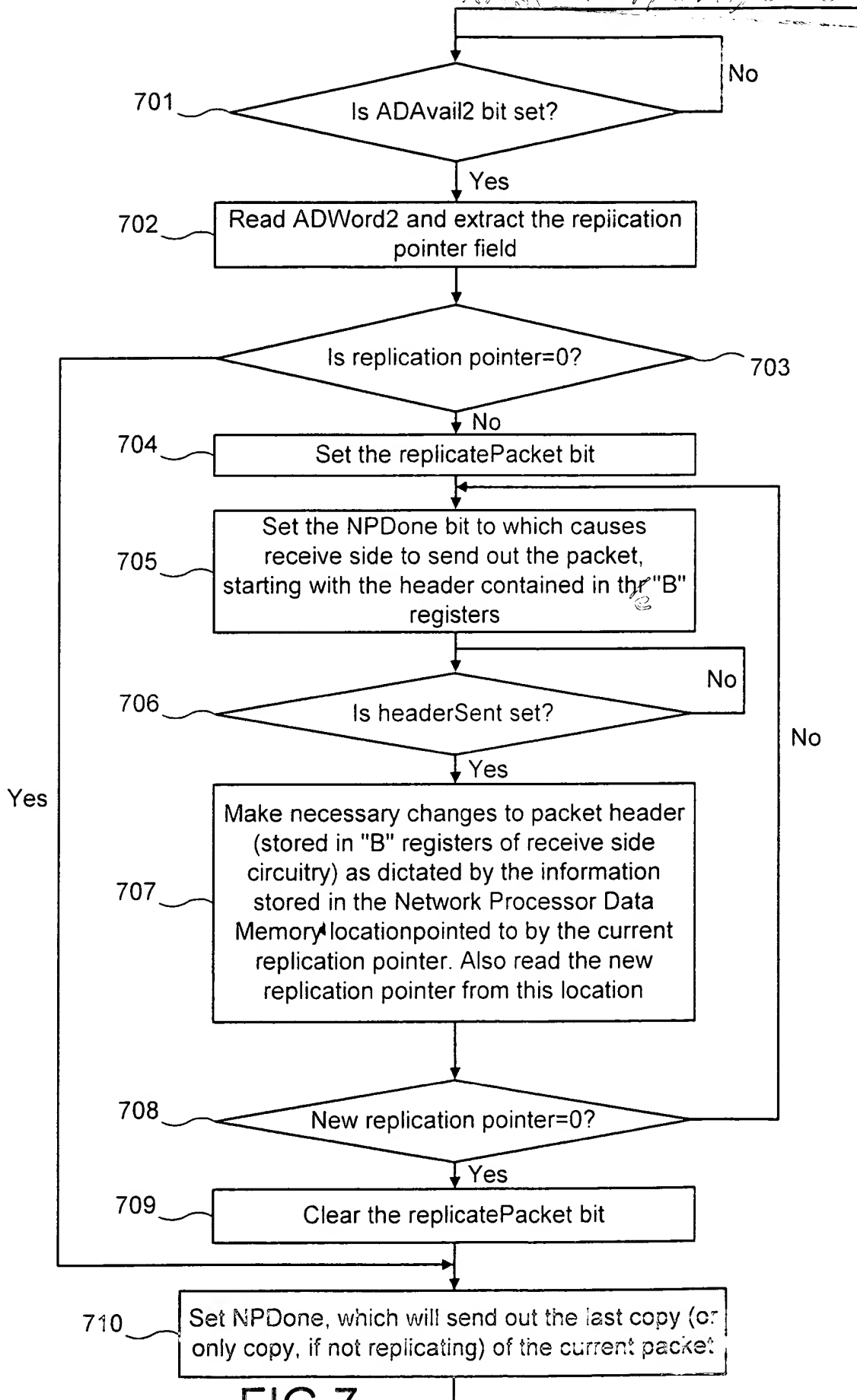


FIG.7